

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Fritz Kirchhofer	
Appln. No.:	Unknown	
Filed:	Herewith	Examiner: Unknown
Title:	Device for Administering an Injectable Product in Doses	Group Art Unit: Unknown

## PRELIMINARY AMENDMENT

Box Patent Application  
Assistant Commissioner for Patents  
Washington D.C. 20231

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"Express Mail" mailing label number EL832025558US  
Francis E. Eise  
(Name)

Dear Sir:

Prior to examination of the above-identified patent application please amend it as follows:

**In The Specification**

Please replace originally filed page 18 with the following page:

**ABSTRACT**

The invention concerns a device for administering an injectable product in doses, wherein the device includes a casing, comprising a reservoir for the product, a piston, which when moved in a feed direction towards an outlet of the reservoir forces product from the reservoir, a gear rack, moving the piston in the feed direction, comprising a first series of teeth and a second series of teeth, a drive member, movable relative to the casing in and counter to the feed direction, and slaving the gear rack when moved in the feed direction, and a blocking means, arranged secured against shifting relative to the casing and cooperating with one of the series of teeth such that it prevents the gear rack from being moved counter to the feed direction and allows the gear rack

to be moved in the feed direction.

### **In The Claims**

1. (Amended) A device for administering an injectable product in doses, comprising:

- a) a casing comprising a reservoir for said product;
- b) a piston which when moved in a feed direction towards an outlet of said reservoir forces product out of said reservoir;
- c) a gear rack moving said piston in said feed direction, comprising a first series of teeth and a second series of teeth;
- d) a drive member movable relative to said casing in and counter to said feed direction, and slaving said gear rack when moved in said feed direction; and
- e) at least two blocking means arranged secured against shifting relative to said casing each co-operating with one of said series of teeth such that said blocking means prevent said gear rack from being moved counter to said feed direction and allow said gear rack to be moved in said feed direction by giving elastically, wherein said blocking means do not fully mesh with the tooth gaps of said series of teeth simultaneously, when said gear rack is moved; wherein
- f) said second series of teeth comprises an elongated tooth gap with which said blocking means co-operating with said second series of teeth meshes, when said gear rack assumes a starting position prior to a first administering.

4. (Amended) The device as set forth in claim 3, characterized in that said third series of teeth also comprises an elongated tooth gap with which said third blocking means cooperating with said third series of teeth fully meshes, when said gear rack assumes a starting position prior to a first administering.

6. (Amended) The device as set forth in claim 5, characterized in that said fourth series of teeth also comprises an elongated tooth gap with which said fourth blocking means cooperating with said fourth series of teeth fully meshes, when said gear rack assumes a starting position prior to a first administering.

7. (Amended) A device for administering an injectable product in doses comprising:

- a) a casing comprising a reservoir for said product;
- b) a piston which when moved in a feed direction towards an outlet of said reservoir forces product out of said reservoir;
- c) a gear rack moving said piston in said feed direction, comprising a first series of teeth and a second series of teeth;
- d) a drive member movable relative to said casing in and counter to said feed direction, to which at least two slaving means are connected secured against shifting, each of which co-operates with one of said series of teeth such that only one of said at least two slaving means pushes in said feed direction against a tooth of said gear rack when said drive member is moved, while on the flank of a tooth the other gives elastically, wherein said slaving means allow said drive member to move counter to said feed direction and relative to said gear rack by giving elastically; and
- e) a blocking means arranged secured against shifting relative to said casing and co-operating with one of said series of teeth such that it prevents said gear rack from being moved counter to said feed direction and allows said gear rack to be moved in said feed direction; wherein
- f) said second series of teeth comprises an elongated tooth gap with which said slaving means co-operating with said second series of teeth meshes, when said gear rack assumes a starting position prior to a first administering.

8. (Amended) The device as set forth in claim 7, characterized in that a tooth gap arranged directly behind said elongated tooth gap in said second series of teeth as viewed from said piston is the next tooth gap of said at least two series of teeth with which one of said at least two slaving means meshes.

10. (Amended) The device as set forth in the claim 9, characterized in that said gear rack is provided with a fourth series of teeth with which a fourth slaving means of said drive member meshes, such that only one of said slaving means is pushed in said feed direction against a tooth of said gear rack, when said drive member is moved, and said slaving means allow said drive member to be moved counter to said feed direction and relative to said gear rack by giving

elastically, and in that said gear rack in said fourth series of teeth comprises an elongated tooth gap with which said slaving means cooperating with said fourth series of teeth meshes, when said gear rack assumes said starting position.

Please enter new claim 11 as follows:

11. (New) A device for administering an injectable product in doses, comprising:  
a casing comprising a reservoir for said product, said reservoir comprising an outlet;  
a piston which, when moved in a feed direction towards the outlet, forces product out of said reservoir;  
a gear rack for moving said piston in said feed direction, comprising a first series of teeth and a second series of teeth;

a drive member movable relative to said casing in and counter to said feed direction, and slaving said gear rack when moved in said feed direction; and  
blocking means secured against shifting relative to said casing and co-operating with said series of teeth such that said blocking means prevents said gear rack from being moved counter to said feed direction and allows said gear rack to be moved in said feed direction by giving elastically, wherein said blocking means do not fully mesh with said series of teeth simultaneously when said gear rack is moved; wherein

said second series of teeth comprises an elongated tooth gap with which said blocking means meshes when said gear rack assumes a starting position prior to a first administering.

**REMARKS**

The present application is preliminarily amended as shown above. A marked-up version of the changes made to the specification and claims by this communication is attached.

Respectfully submitted,

DORSEY & WHITNEY LLP

Date:

July 11, 2001

By:

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**MARKED-UP VERSION SHOWING CHANGES**

**In The Specification (at page 18)**

[ ABSTRACT OF THE DISCLOSURE

**Device for Administering an Injectable Product in Doses**

The invention concerns a device for administering an injectable product in doses, comprising:

- a) a casing (1, 5), comprising a reservoir (2) for the product;
- b) a piston (3), which when moved in a feed direction towards an outlet (4) of the reservoir (2) forces product from the reservoir (2);
- c) a gear rack (10), moving the piston (3) in the feed direction, comprising a first series of teeth (11) and a second series of teeth (12);
- d) a drive member (20), movable relative to the casing (1, 5) in and counter to the feed direction, and slaving the gear rack (10) when moved in the feed direction; and
- e) a blocking means (6), arranged secured against shifting relative to the casing (1, 5) and cooperating with one of the series of teeth (11, 12) such that it prevents the gear rack (10) from being moved counter to the feed direction and allows the gear rack (10) to be moved in the feed direction.

The second series of teeth (12) comprises an elongated tooth gap (17a) with which the blocking means (7) cooperating with the second series of teeth (12) meshes, when the gear rack (10) assumes a starting position prior to a first administering.

The second series of teeth (12) comprises an elongated tooth gap (19a) with which the slaving means (22) cooperating with the second series of teeth (12) meshes, when the gear rack (10) assumes a starting position prior to a first administering.

Fig.1]

-- ABSTRACT

The invention concerns a device for administering an injectable product in doses, wherein the device includes a casing, comprising a reservoir for the product, a piston, which when moved in a feed direction towards an outlet of the reservoir forces product from the reservoir, a gear rack, moving the piston in the feed direction, comprising a first series of teeth and a second series of teeth, a drive member, movable relative to the casing in and counter to the feed direction, and slaving the gear rack when moved in the feed direction, and a blocking means, arranged secured against shifting relative to the casing and cooperating with one of the series of teeth such that it prevents the gear rack from being moved counter to the feed direction and allows the gear rack to be moved in the feed direction. –

IN THE CLAIMS

Please amend claim 1, 4, 6-8 and 10 as follows:

1. (Amended) A device for administering an injectable product in doses, comprising:
- a) a casing [(1, 5)], comprising a reservoir [(2)] for said product;
  - b) a piston [(3)], which when moved in a feed direction towards an outlet [(4)] of said reservoir [(2)] forces product out of said reservoir [(2)];
  - c) a gear rack [(10)], moving said piston [(3)] in said feed direction, comprising a first series of teeth [(11)] and a second series of teeth [(12)];
  - d) a drive member [(20),] movable relative to said casing [(1, 5)] in and counter to said feed direction, and slaving said gear rack [(10)] when moved in said feed direction; and
  - e) at least two blocking means [(6, 7),] arranged secured against shifting relative to said casing [(1, 5),] each co-operating with one of said series of teeth [(11, 12)] such that said blocking means [(6, 7)] prevent said gear rack [(10)] from being moved counter to said feed direction and allow said gear rack [(10)] to be moved in said feed direction by giving elastically, wherein said blocking means [(6, 7)] do not fully mesh with the tooth gaps [(16)] of said series of teeth [(11, 12)] simultaneously, when said gear rack [(10)] is moved; wherein

[characterised in that]

- f) said second series of teeth (12) comprises an elongated tooth gap (17a) with which said blocking means (7) co-operating with said second series of teeth (12) meshes, when said gear rack (10) assumes a starting position prior to a first administering.

4. (Amended) The device as set forth in [the preceding] claim 3, characterized in that said third series of teeth also comprises an elongated tooth gap with which said third blocking means cooperating with said third series of teeth fully meshes, when said gear rack assumes a starting position prior to a first administering.

6. (Amended) The device as set forth in [the preceding] claim 5, characterized in that said fourth series of teeth also comprises an elongated tooth gap with which said fourth blocking means cooperating with said fourth series of teeth fully meshes, when said gear rack assumes a starting position prior to a first administering.

7. (Amended) A device for administering an injectable product in doses, comprising:

- a) a casing [(1, 5),] comprising a reservoir [(2)] for said product;
- b) a piston [(3),] which when moved in a feed direction towards an outlet [(4)] of said reservoir [(2)] forces product out of said reservoir [(2)];
- c) a gear rack [(10),] moving said piston [(3)] in said feed direction, comprising a first series of teeth [(11)] and a second series of teeth [(12)];
- d) a drive member [(20),] movable relative to said casing [(1, 5)] in and counter to said feed direction, to which at least two slaving means [(21, 22)] are connected secured against shifting, each of which co-operates with one of said series of teeth [(11, 12)] such that only one of said at least two slaving means [(21, 22)] pushes in said feed direction against a tooth [(15)] of said gear rack [(10)] when said drive member [(20)] is moved, while on the flank of a tooth the other gives elastically, wherein said slaving means [(21, 22)] allow said drive member [(20)] to move counter to said feed direction and relative to said gear rack [(10)] by giving elastically; and
- e) a blocking means [(6),] arranged secured against shifting relative to said casing [(1, 5)] and co-operating with one of said series of teeth [(11, 12)] such that it prevents said



gear rack [(10)] from being moved counter to said feed direction and allows said gear rack [(10)] to be moved in said feed direction; wherein

**[characterised in that]**

- f) said second series of teeth [(12)] comprises an elongated tooth gap [(19a)] with which said slaving means [(22)] co-operating with said second series of teeth [(12)] meshes, when said gear rack [(10)] assumes a starting position prior to a first administering.

8. (Amended) The device as set forth in [the preceding] claim 7, characterized in that a tooth gap arranged directly behind said elongated tooth gap in said second series of teeth as viewed from said piston is the next tooth gap of said at least two series of teeth with which one of said at least two slaving means meshes.

10. (Amended) The device as set forth in [the preceding] claim 9, characterized in that said gear rack is provided with a fourth series of teeth with which a fourth slaving means of said drive member meshes, such that only one of said slaving means is pushed in said feed direction against a tooth of said gear rack, when said drive member is moved, and said slaving means allow said drive member to be moved counter to said feed direction and relative to said gear rack by giving elastically, and in that said gear rack in said fourth series of teeth comprises an elongated tooth gap with which said slaving means cooperating with said fourth series of teeth meshes, when said gear rack assumes said starting position.

Please add new claim 11 as follows:

11. (New) A device for administering an injectable product in doses, comprising:  
a casing comprising a reservoir for said product, said reservoir comprising an outlet;  
a piston which, when moved in a feed direction towards the outlet, forces product out of said reservoir;  
a gear rack for moving said piston in said feed direction, comprising a first series of teeth and a second series of teeth;

a drive member movable relative to said casing in and counter to said feed direction, and slaving said gear rack when moved in said feed direction; and

blocking means secured against shifting relative to said casing and co-operating with said series of teeth such that said blocking means prevents said gear rack from being moved counter to said feed direction and allows said gear rack to be moved in said feed direction by giving elastically, wherein said blocking means do not fully mesh with said series of teeth simultaneously when said gear rack is moved; wherein

said second series of teeth comprises an elongated tooth gap with which said blocking means meshes when said gear rack assumes a starting position prior to a first administering.